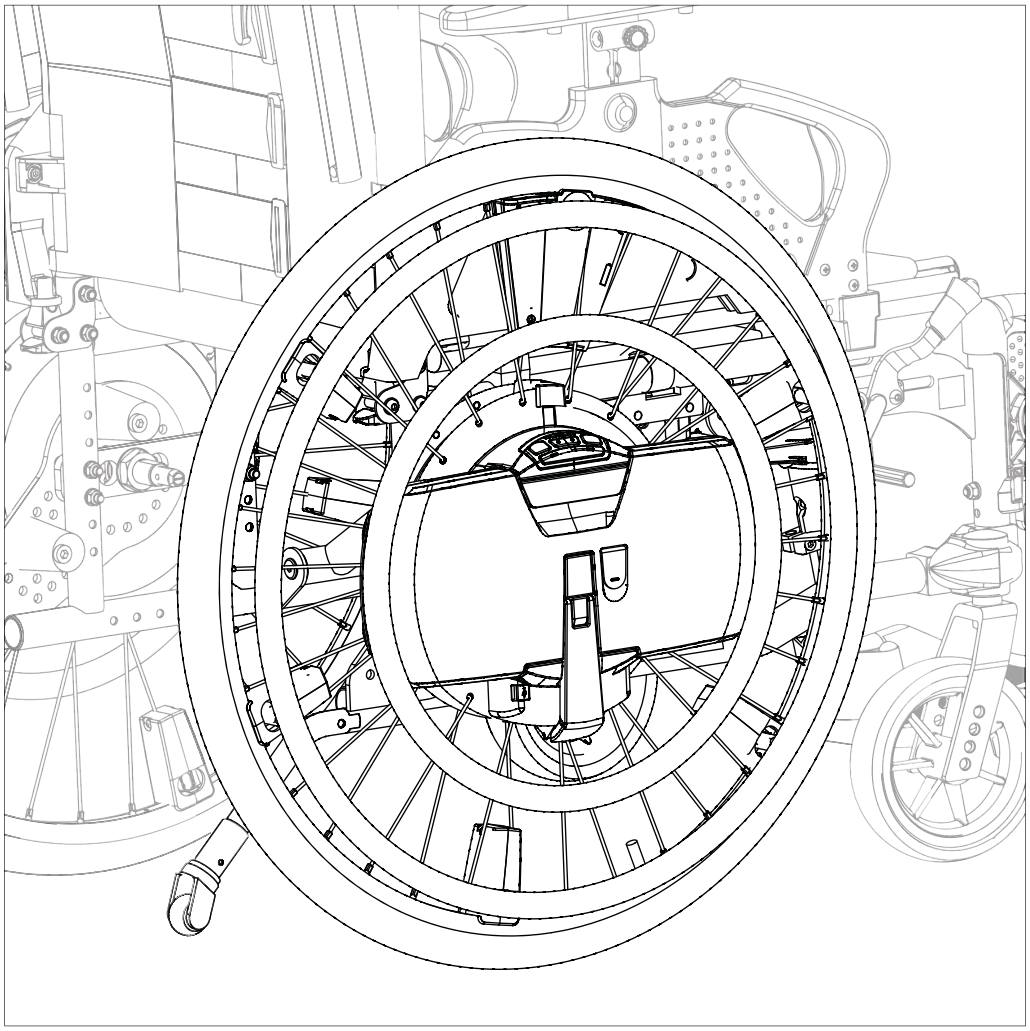
SERVICE MANUAL

EN

WHEELDRIVE



handicare

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1 Introduction

1.1 This manual

This service manual explains the mounting of the WheelDrive onto a manual wheelchair frame. The WheelDrive is compatible with most common wheelchair frames in the market. The mounting can be done with a number of standard parts, supplied with the WheelDrive wheels. For each wheelchair frame model a different setting is needed. Once a wheel is set for a certain frame construction, it cannot be put directly onto another frame construction; an adjustment to the settings is required.

Mechanics who do the mounting and repairs on this Power assist must be well trained and familiar with the repair methods and the maintenance of the WheelDrive. Always make sure that the work is carried out safely, particularly with respect to procedures requiring the Power assist to be lifted up. We advise that you contact our technical helpdesk before doing repair work on a WheelDrive that has been involved in an accident.

The following specifications are important when ordering parts:
- Model
- Year of manufacture
- Colour
- ID-number
- Part number
- Name of the part concerned

This information is provided on the identification plate. See 'Identification of the product'.

Available documentation
This manual will help you to service the Power assist. Other relevant document available / required to service the Power assist is the user manual

Service and technical support
For information concerning specific settings, maintenance or repair works please contact the Handicare Customer Service department. They are always prepared to help you. Ensure you have at hand:
- Model
- Year of manufacture
- ID-number

1.2 Identification of the product

The identification plate contains the following data:
A. Article number
B. Date of manufacture
C. Left or right wheel
D. Identification number

See for the location of the identification plate ´markings on the WheelDrive´.

1.3 Symbols used in this manual

Note!
Pointing out possible problems to the user.

⚠ ***Caution!***
Advice for the user to prevent damage to the product.

⚠ ***Warning!***
Warnings for the user to prevent personal in jury.

Not following these instructions may result in physical injury, damage to the product or damage to the environment!

1.4 Remarks before use

Note!
Pull of the rubber caps from the main battery contact, otherwise you do not have power for the system

Charge the battery first, before use

2 Safety

2.1 Personnel qualification

Repairs may only be carried out by trained and authorised service technicians.
During the execution of their work, they are at all times fully responsible for the fulfilment of locally applicable safety guidelines and standards.
Temporary employees and persons in training may only carry out repair and replacement work under the supervision of an authorised service technician.

2.2 Identification on the product

Safety
Safety information is indicated with the warning symbol.

⚠ ***Warning!***
Follow the instructions carefully next to these warning symbols! Not paying careful attention to these instructions could result in physical injury or damage to the Power assist or the environment. Wherever possible, safety information is also provided in this manual in the relevant chapter.

2.3 Temperature

⚠ ***Warning!***
Avoid physical contact with the WheelDrive motor. The motor is continuously in motion during use and can reach high temperatures. After use, the motor will cool down slowly. Physical contact may cause burns.

Ensure that the WheelDrive is not exposed to direct sunlight for extended periods of time. Certain parts of the WheelDrive become hot if exposed to the sun for too long. This may cause burns or skin irritation.

2.4 Electromagnetic radiation and interference

The Power assist has been tested for compliance with the applicable requirements regarding electromagnetic radiation (EMC requirements).

Note!
It cannot be excluded that electromagnetic radiation emanating from mobile telephones, medical apparatus and other sources, may have an influence on the Power assist.

It cannot be excluded that the Power assist will interfere with the electromagnetic fields of, for example, shop doors, burglar alarm systems and/or garage door openers.

In the unlikely event that such problems do occur, you are requested to notify your dealer immediately.

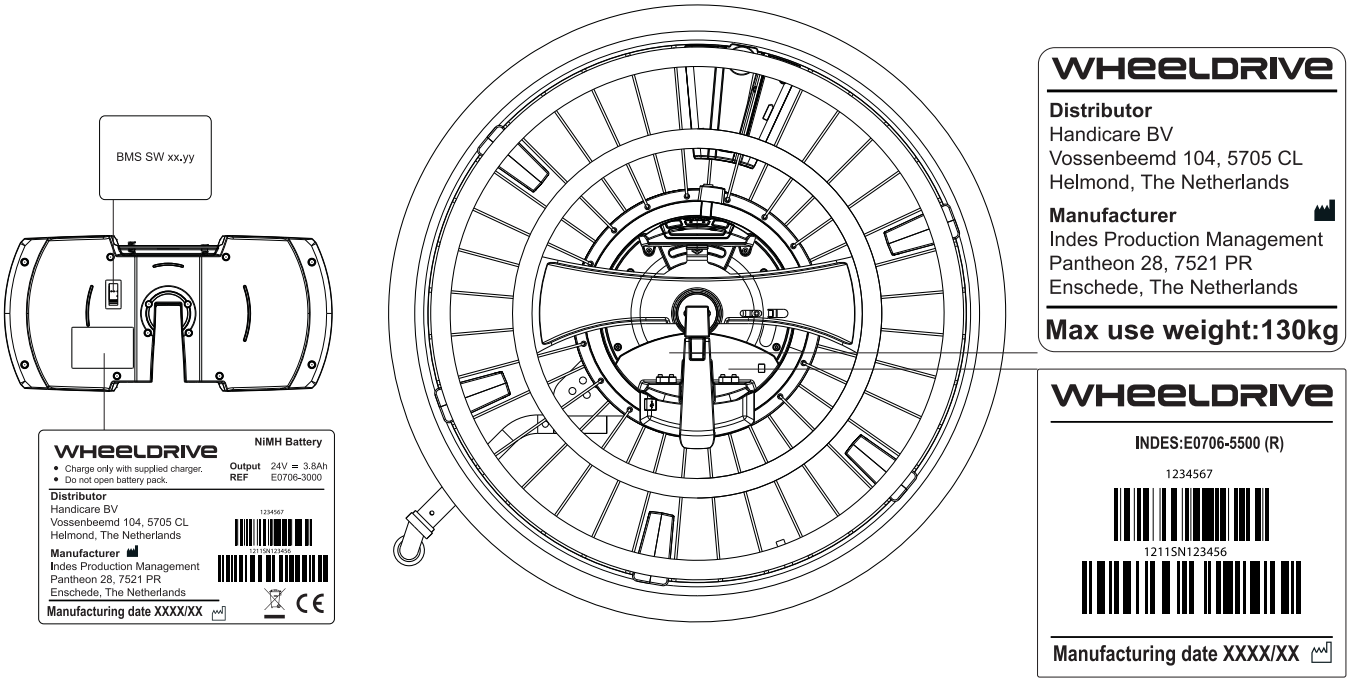
The Power assist can be affected by sources of radio waves, such as radio and TV transmitters, amateur radio stations, lifts, transmitting equipment, stereo radios and mobile telephones. If the Power assist electronics are not well shielded, sensitive electrical devices, such as shop alarm systems and garage door openers, can be affected. The WheelDrive has been tested for such interference. Please report any problems of this nature to your dealer immediately.

Note:
There is no easy way of testing the effects of radio waves on the general immunity of the Power assist.

2.5 Markings on the WheelDrive

Never remove or cover up the markings, symbols and instructions affixed to the Power assist. These safety measures must remain present and clearly legible throughout the entire lifestam of the Power assist.
Replace or repair any markings, symbols or instructions that have become illegible or damaged immediately. Please contact your dealer for assistance.

Product labels
The following sticker/label can be found on the product:



2.6 Technical specifications

No changes may be made to the technical specifications.

2.7 Modifications / Adaptations

Modifications, not executed by Handicare, to components and electronics of this product are not permitted.

3 Parts in box and tools to use

3.1 Parts in box

The Wheeldrive set (left and right) is packed into 2 boxes. Each box contains the following parts,

- The user manual
- 1x left wheel or 1x right wheel
- 1x Chargers (Indes_SUP012)
- Mounting materials, 1x box with:
  - 1x Quick release axle 12.7 mm, for 25- 75 mm receivers(E0706-4300A)
  - 1x Quick release axle 12 mm, for 25-75 mm receivers (E0706-4400A)
  - 1x Quick release axle 12,7 mm, for 37 mm receiver (AS-E0706-4800) with receiver 12,7 mm 37 mm long (ASE0706-4800) or 1x Quick release axle 12,0 mm, for 37 mm receiver (AS-E0706-4800) with receiver 12,0 mm 37 mm long (ASE0706-4800)
  - 2x Support Bumpers (E0706-5230)
  - 1x Installation help for support bumpers (PP-E0706-0150A)
  - 2x Extender bracket, short (E0706-0538A)
  - 2x Extender bracket, long (E0706-0539A)
  - 8x Bolts M8x10 (D7984-002-080010)

3.2 Tools to use

The tools below are needed for various mechanical settings and maintenance:

Quantity	Description	Size (mm)
1	Screwdriver, medium	5
1	Screwdriver, crosshead	-
1	Hammer (plastic)	-
1	Chaser	-
1	Circlip pliers	-
1	Ring spanner	7 / 10 / 11 / 13 / 17
1	Torque wrench	-
1	Socket	7 / 8 / 10 / 11 / 12 / 13 / 16 / 17
1	Socket bit	6
1	Allen key	3 / 4 / 5 / 6 / 8
1	Locktite	243
1	Shock absorber adjustment key	-

⚠ **Caution!**
Use only high-quality tools for the adjustment(s) described.

Make sure that the hexagon of the spanner is attached securely to the hexagon of the fastening article. This prevents the 'rotation' of hexagons of fastening articles and spanners that may affect proper adjustment.

The following tools are needed for various electronic settings:

Quantity	Description	Function	
1	PG - pc programmer B-version	Adaptation of the drive programs and technical settings. Reading out the fault history	PR0210
1	PG - programmer unit SPIB handheld	Alternative device for PC. Adaptation of the drive programs and technical settings. Reading out the fault history	10237

4 Spare parts

4.1 Use of the parts lists

This document is meant as a reference to order parts for the WheelDrive.

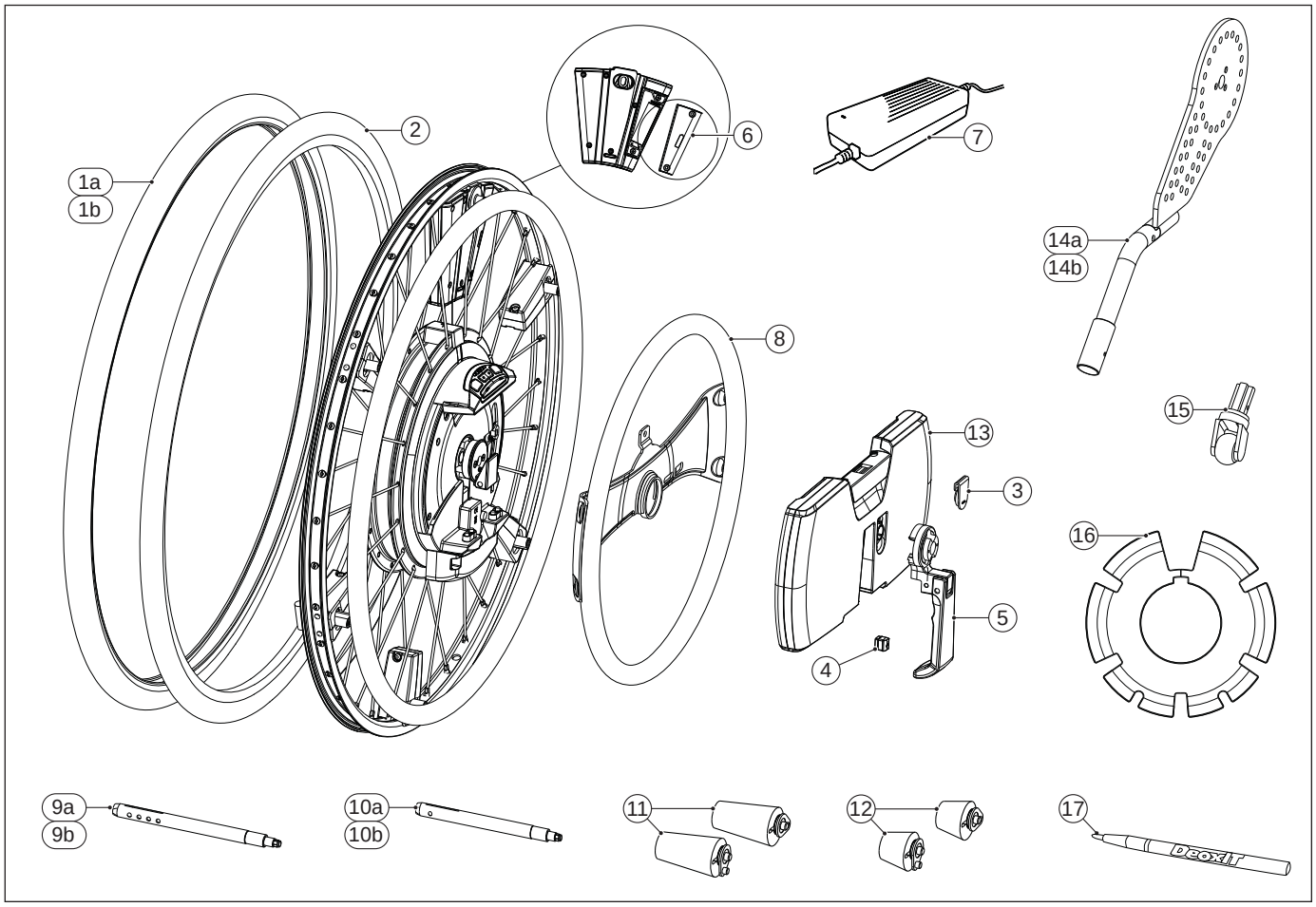
How to order
When ordering parts, please specify:
- ID-number (see the identification plate)
- Group (to which the relevant part belongs)
- Article number
- Number of parts required
- Description (in the relevant language)
- Dimensions (if applicable)

Remark
- If a part does not have a position number, it means that the part concerned cannot be purchased separately. The part concerned is part of the assembly shown. This assembly must be ordered as one piece. It has to be replaced in its entirety.
- Boxed position numbers refer to the relevant drawing.

Order address
Please mail or fax your orders to Handicare.

Service technicians
Repairs may only be carried out by trained and authorised service technicians. During the execution of their work they are at all times fully responsible for the fulfilment of locally applicable safety guidelines and standards.
Temporary employees and persons in training may only carry out repair and replacement work under the supervision of an authorised service technician.

01 WheelDrive exploded view



Pos	Qty	Article number	Description
1a	1	9007930	Tyre 24" Rightrun lite grey/black
1b	1	9007932	Tyre 24" Marathon plus evolution black
2	1	9007934	Tube 24" Schrader valve
3	1	9007938	Charger connector cover
4	1	9007941	USB cover (10 pieces)
5	1	9007943	Wheel handle and bracket
6	1	9007945	Cover for sensor box AA batteries (2 pieces)
7	1	9007947	WheelDrive charger
8	1	9007949	Drive rim assy
9a	1	9007953	Quick release axle Ø12 mm
9b	1	9007951	Quick release axle Ø12,7 mm
10a	1	9007967	Quick release axle, short Ø12 mm
10b	1	9007965	Quick release axle, short Ø12,7 mm
11	1	9007955	Support blocks assy
12	1	9008200	Support blocks assy, short
13	1	9007957	Battery pack
14a	1	9007961	Anti-tip arm for 24" wheel, right
14b	1	9007963	Anti-tip arm for 24" wheel, left
15	1	9007959	Anti-tip wheel (2 pieces)
16	1	9008492	Spoke guard 24"
17	1	9009885	Cleaner battery contacts WheelDrive

5 Service instructions

5.1 Glossary

Assist Rim – Big rim, located at same position of normal wheelchair.
Drive Rim – Small rim, extra rim located in the centre.
Handle safety feature – Auto shutdown function when handle is opened.
Anti-tip – Tip-over protection, located at the back of the wheelchair.
Sensor Box – Triangular shaped box, located between the spokes

5.2 Maintenance plan

The maintenance plan is a reference guide for maintenance and inspection of the WheelDrive. Below, we have indicated what needs to be checked, how often this should be done and by whom.

Time span	Description	To be carried out by	
		User	Dealer
Daily	Charge batteries after each use	X	
Weekly	Check tire pressure	X	
Monthly	Inspect tire wear	X	
	Inspect support blocks fixture	X	
Every 6 months	Change batteries Sensor (both)	X	
Service appointment	Inspect the drive		X
	Inspect the electrical system		X
	Inspect the battery		X
	Inspect the safety tip feature		X
	Inspect the rims		X
	Overall inspection		X

However there is a signaling to warn the user at low battery status, it is recommended to change the batteries of the SensorBox every 6 months.

⚠ ***Warning***
Do not use rechargeable batteries.

Maintenance plan should be carried out by the dealer every time the WheelDrive is presented for service-related matters.

Maintenance requirement for re-use
Clean battery contacts with special cleaner, to prevent extraordinary wear of contacts. Cleaner is available at Handicare.

⚠ ***Warning***
Do not use other cleaners than provided by Handicare.

The following points most be carried out before re-use:

	Annual inspection						
	1	2	3	4	5	6	7
Inspect the drive							
Use assist rim to drive forwards							
Use assist rim to drive backwards							
Use Drive rim to drive forwards							
Use Drive rim to drive backwards							
Inspect electrical system							
Check all status LEDS							
Check for BEEP signaling							
Check function of all buttons							
Check handle safety feature							
Inspect the battery							
Check for damages							
Check locking in the WheelDrive							
Check charger connector cover							

	Annual inspection						
	1	2	3	4	5	6	7
Inspect anti-tip							
Check movement anti-tip leg							
Check anti-tip wheel							
Check fixture anti-tip							
Inspect Assist rim							
Check for damages							
Check movement							
Check centre position							
Inspect Drive rim							
Check for damages							
Check movement							
Check center position							
Overall							
Check for tire wear							
Check the support block installation							
List of necessary repairs:							

Handle safety feature
Handle safety feature prevents switching on the system with the handle in open position.
Be sure to put the handle in close position when operating the WheelDrive.

Batteries
The battery is fitted with gold plated contacts. Make sure contacts are clean and undamaged.

⚠ ***Warning***
Ensure the batteries are always fully charged. Not using the batteries for an extended period of time can damage them. Do not use the WheelDrive if the batteries are almost run down and never if the batteries are completely empty. This can seriously damage the batteries and you may run the risk of coming to an unintended standstill

Batteries contain acids. Damaged batteries are a serious health hazard.

If the capacity of the batteries is continually decreasing so that the wheelchair can only be used for short trips, this means that the batteries are reaching the end of their lifespan. The batteries then need to be replaced.

Anti-tip
The anti-tip can be positioned upwards or downwards.
Be sure to put the anti-tip in the downwards position before re-use.

Rims
The rim safety feature prevents using the WheelDrive when rims are operated during startup.
Be sure to leave the rims in idle and untouched condition about 3 seconds after switching on the WheelDrive.

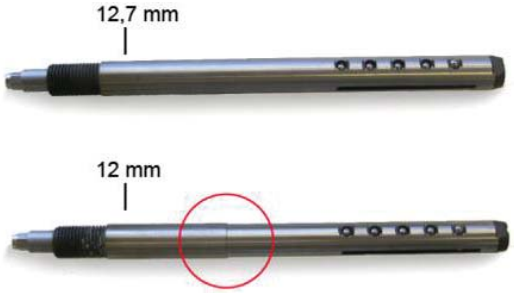
⚠ ***Warning***
At all time the rims must be able to move clearly from other objects. Any disturbance from burrs or bends will affect the drive experience.

Overall
Tires must perform well under normal conditions. Insufficient inflation or over-inflation will reduce the drive experience. Cracks, bumps or lack of profile may increase the risk of a flat tire.

Badly installed WheelDrive will reduce the drive experience. Refer to 5.4 and 5.5 to check the support blocks and axle setting.

⚠ ***Warning***
Support blocks and axles subject to wear must be replaced! If ignored, hazardous events can occur. Risk of serious injury.

5.3 Quick release axle (QRA)



Determine the QRA
Two types of quick release axles are provided.
- Quick release axle for receivers of 25-75 mm
- Quick release axle short for a receiver of 37 mm

Each type comes in 2 diameters: 12 and 12,7 mm. Be sure to determine the right axle size before installing the WheelDrive. To determine the difference between 12 or 12,7 mm, look at the rib in the middle of the QRA. Without a rib is the 12,7 mm QRA and with a rib is the 12 mm.

Determine which QRA you want to use, based on the receiver applied on the wheelchair frame. If you are not in the position of a proper measuring device to determine the diameter of your axle receiver, you can also determine the required axle diameter by trial and error: the axle has to be a tight fit, so there should be no play and the axle can only be moved along the length of the axle.

If the wheelchair frame consist a longer receiver, replace it with a shorter one. If you want to apply the short QRA, use it for a receiver of 37 mm. This might be useful for wheelchairs with a tilting mechanism. See the next paragraph how to mount and adjust the QRA.

5.4 Quick release axle instructions

5.4.1 Mounting the variable quick release axle (QRA)

Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery.

Instructions
The following operations are required to mount the QRA:
- Screw the adjustment screw completely into the QRA. This can be done by hand.
- Put the QRA in the motor housing and tighten with your hand until you feel resistance.
- Tighten the axle completely into the housing. You need to turn the axle many times until the axle is fully secured.

⚠ **Warning!** When the axle is not properly secured in the motor, it may come loose!

Relevant article numbers
- 9007953 Quick release axle Ø12 mm
- 9007951 Quick release axle Ø12,7 mm
- 9007967 Quick release axle, short Ø12 mm
- 9007965 Quick release axle, short Ø12,7 mm

Tools used
- Open ended or ring spanner, 10 mm

1

2

3

Note! When the axle is not properly secured in the motor, it may come loose!

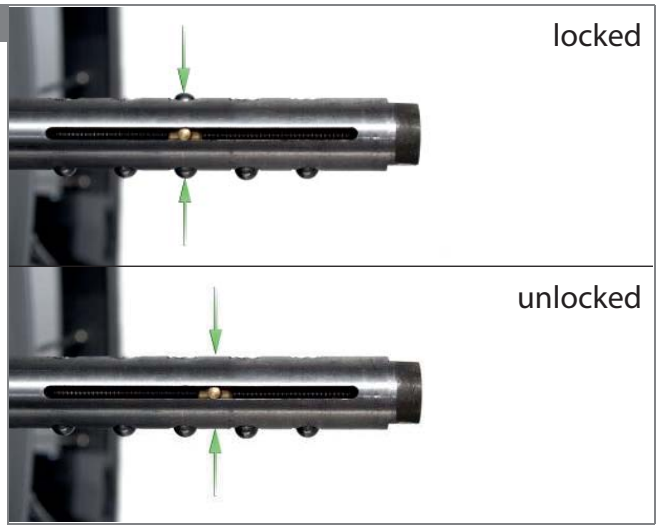
5.4.2 Releasing the QRA balls

Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery.

Instructions
The following operations are required release the QRA balls:
- The QRA is locked if the slider is aligned with a ball. Before you mount the WheelDrive to the wheelchair, the QRA balls need to be released (unlocked).
- The side of the axle with the adjustment bolt is visible at the front side of the wheel.
- Unlock the axle by turning the slider with a screwdriver at the end of the axle. The slider indicator will become unaligned with the balls.
- You can mount the WheelDrive to the wheelchair

Tools used
- Screwdriver

1



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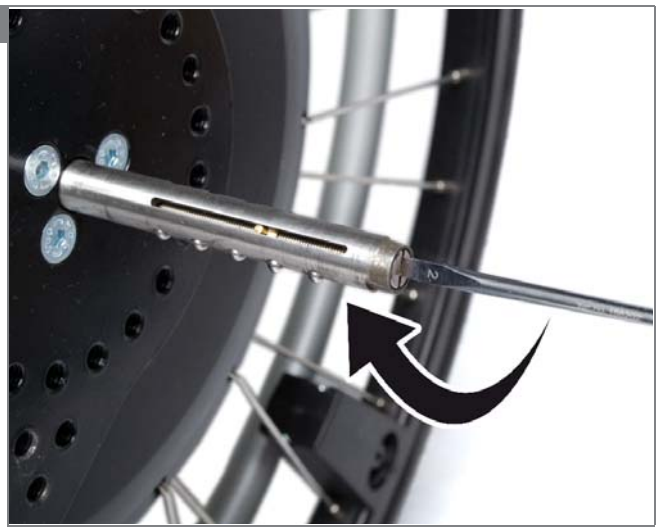


5.4.3 Setting the QRA balls

Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery.

Instructions
The following operations are required to set the QRA balls:
- Put the WheelDrive with anti-tip and the QRA completely in the axle receiver. The anti-tip plate should touch the axle receiver.
- Unscrew the QRA until a ball comes fully out of the axles-receiver.

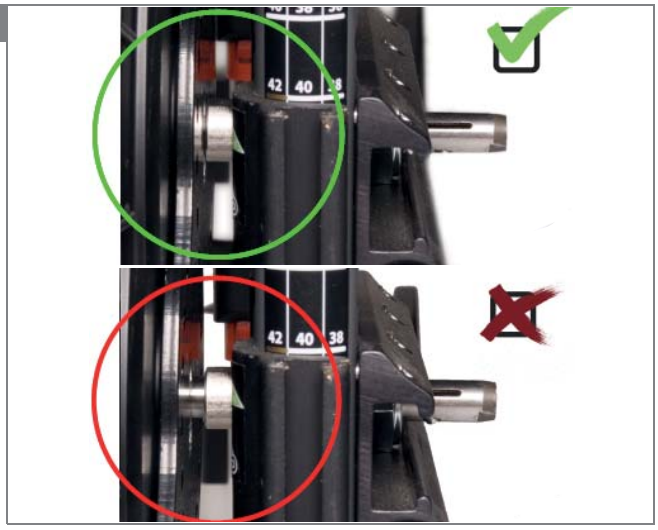
⚠ **Warning!** Do not unscrew the axle more than 10 mm outwards (second pair of balls). The axle will not be properly secured in the motor and may come loose!

- The QRA is in its correct position, to lock itself to the axle receiver.
- Remove the wheel and adjust the QRA slider with a screw driver by turning the screw at the top side. The slider should be aligned with the ball to lock that ball at the length of the axle receiver.

⚠ **Warning!** Make sure that the slider is absolutely in the middle of the balls. If not, the slider may come unlocked and loose to the wheelchair.

- Put the wheel back on the wheelchair frame by pushing the release button located above the handle. By pushing the button the slider is unaligned and unlocked. Be sure the selected ball comes out of the axle receiver in a locked position.

Tools used
- Open ended or ring spanner, 10 mm
- Screw driver

1


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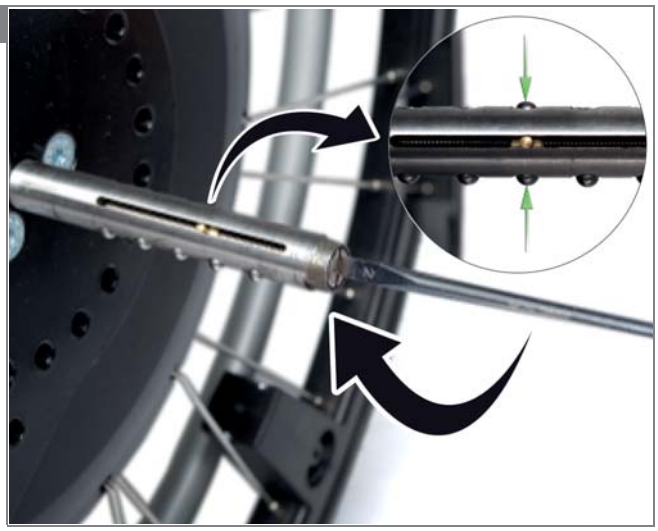

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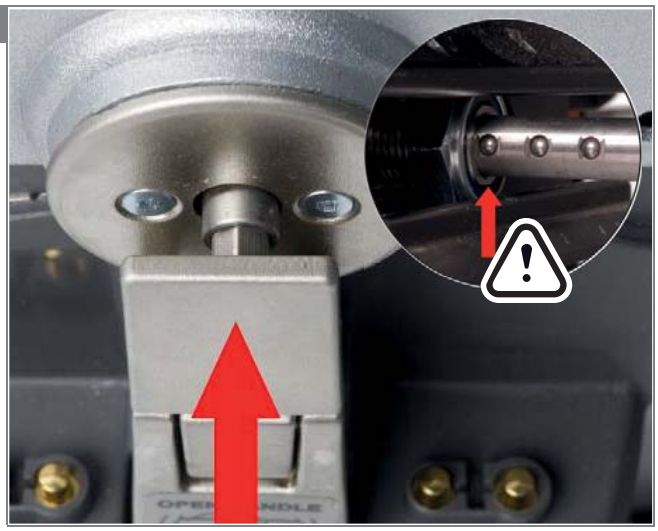


5.4.4 Setting adjustment screw

Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery.

Instructions
The following operations are required to set the adjustment screw:

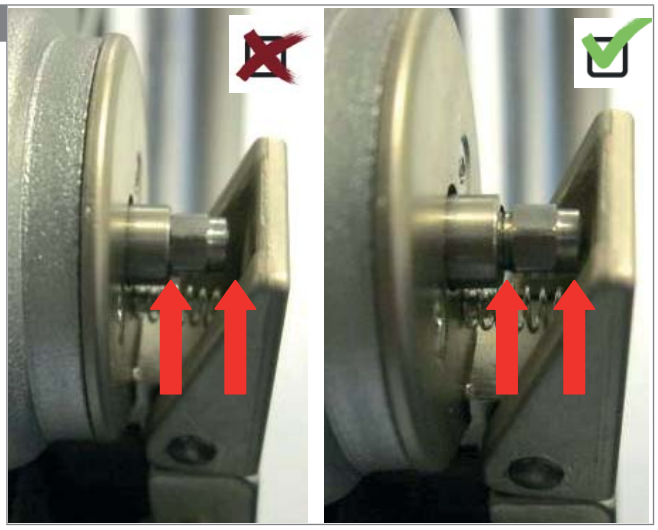
- Turn the screw with a open ended or ring spanner. The adjustment screw should touch the QRA button at the front side. When it is not touching at all, the wheel cannot be removed properly. If it is touching the QRA button too hard, the slider will unlock and the wheel may come loose. **Note!** When the adjustment screw touches the release button do not continue. Tip; you can turn the adjustment screw 1 or 2 mm before the button.
- End check: remove the wheel and put the wheel back on. When you hear a distinct click the QRA is properly adjusted. When you do not hear a distinct click, it means the balls cannot protrude from the QRA. The QRA will not lock the axle in the receiver. Repeat the previous steps to fine-tune the sttting of the QRA.

Tools used

- Open ended or ring spanner, 6 mm

1

2



5.5 Support block instructions

5.5.1 Mounting the support blocks on the WheelDrive

In order to fixate the WheelDrive system to your frame, two support blocks must be mounted on the anti tip plate, both rotated closely to the frame in order to counter rotational movement from the motor.

Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery.

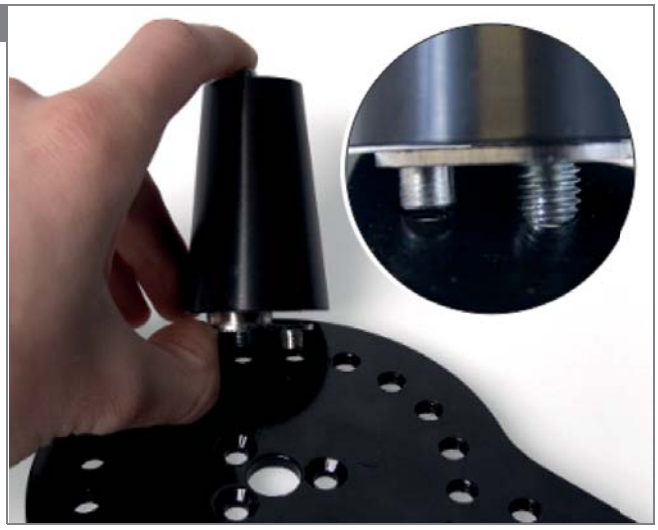
Instructions
The following operations are required to assemble the support blocks:
- Assemble the 4 parts
- Screw the support blocks onto the anti-tip plate with the gripping bolt. The protrusion on the support block fits in a hole next to the hole in which the gripping bolt will be screwed.

Relevant article numbers
- 9007955 Support blocks assy
- 9008200 Support blocks assy, short

Tools used
- Allen key 6 mm

1

2



3

5.5.2 Mounting the wheels on the chair and adjusting the support blocks

Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery.

Instructions
The following operations are required to mount and set the support blocks on the wheel:

- Position the anti-tip wheel 6 cm above the ground by using th supplied carton triangle.
- Determine the position for the first support block close to the frame that counters the rearward rotation of the motor and the anti-tip plate. Tighten the support block-bolt finger tigh, so the block can still rotate around the bolt.
- Determine the position for the second support block close to the frame that counters the forwards rotation of the motor and the anti-tip plate.
  Note! Make sure that both blocks stop rotational movement in opposite directions.
  Note! Make sure that the supporting area of the wheelchair frame is stiff enough for countering the motor torque.
  Tighten the support block-bolt finger tight, so the block can still rotate around the bolt.
- Place the plastic film on the support block to create a proper play for taking off the wheel.
- Rotate the support blocks one after another towards the frame and tighten the bolt.
- Remove the plastic film from the block by pulling the pull tab. It is important to remove the film smoothly, to make sure the block and film are not too tight to the frame.
  Note! The support blocks may not mount too lose. When the blocks are loose along the frame, the anti-tip plate rotates with the motor

Relevant article numbers

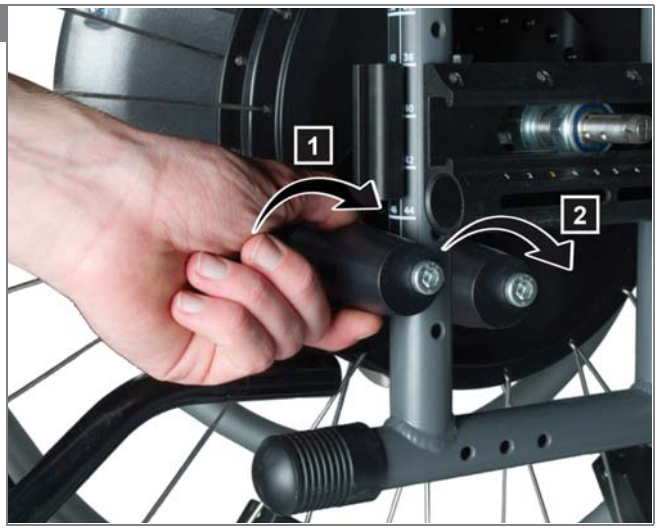
- 9007955 Support blocks assy
- 9008200 Support blocks assy, short

Tools used

- Allen key, 6 mm

1

2



3

4

5.5.3 Mounting additional extender brackets

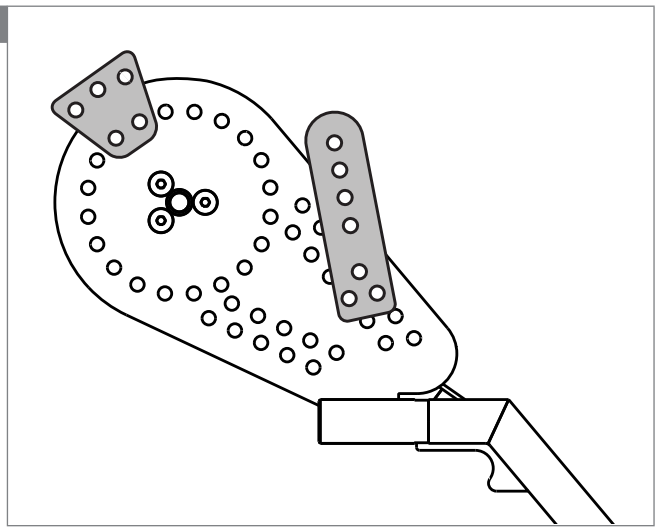
Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery.

In some cases there is insuffiecient space to position the support blocks on the anti tip plate. In other cases the support blocks might interfere with other wheelchair parts or a tilting mechanism.
In that case additional extender brackets can be useful

Instructions
The bracket with three mounting holes can be used in different positions (see drawings).
- Search for a possible position for the bracket and determine which holes are used.
- Fix the bracket with two bolts.
- Search for a possible position for the support blocks on the bracket, close to the frame.
- Tighten the support blocks-bolt finger tight, so the blocks can still rotate around the bolt.
- Rotate the support block against the frame and tighten the bolt

Tools used
- Allen key, 6 mm

1



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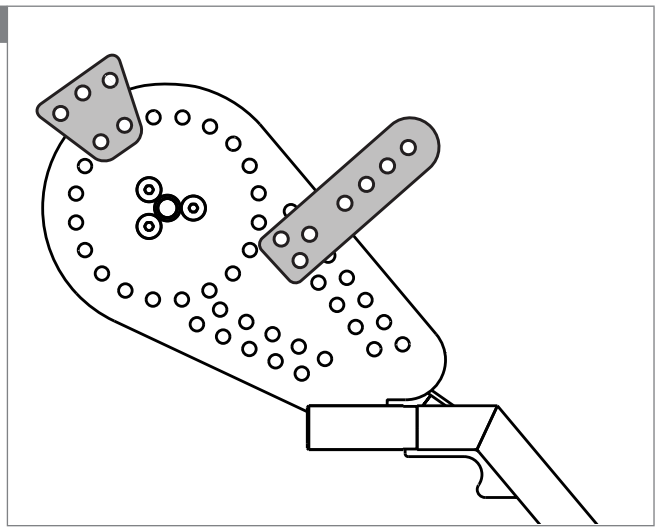

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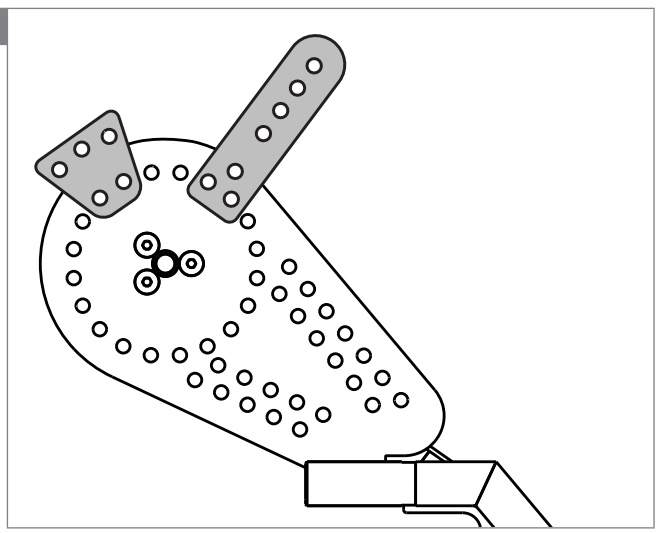


5.6 Maintenance instructions

5.6.1 Mounting the tyres

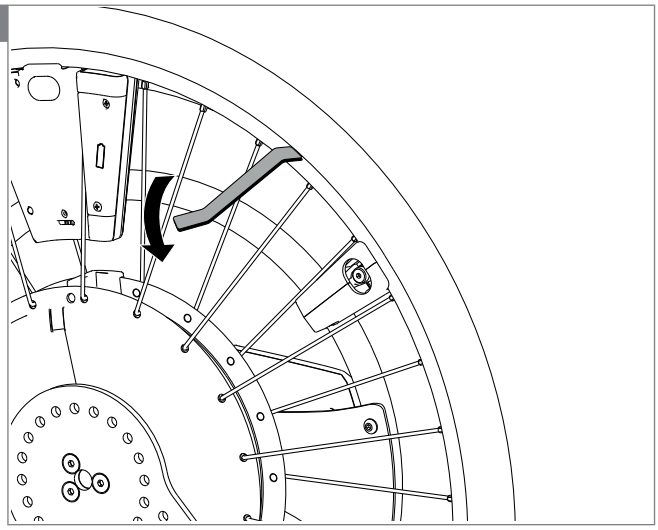
Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery.

Instructions
The following operations are required to mount the tyres:
- **Note!** Do not remove or change the rim protection. The rim protection is custom designed to bear the high pressure tires.
- Unlock the WheelDrive and remove from frame.
- Removal of the outside tire only in inwards direction. Do not remove the outside tire to the front, damage to rims is possible.
- Replacement tyres provided by Handicare come in 2 models. Schwalbe Right Run and Schwalbe Marathon Plus Evo. Both are designed for indoor- and outdoor use. The Marathon Plus Evo tyre has a pre-defined rolling direction. Please pay attention when this type of tyre is replaced or removed for any service.
- Remove tire like normal wheelchair tyres.

Relevant article numbers
- 9007930 Rightrun Lite Grey/Black
- 9007932 Marathon Plus Evolution Black

Tools used
- Normal tyre levers

1



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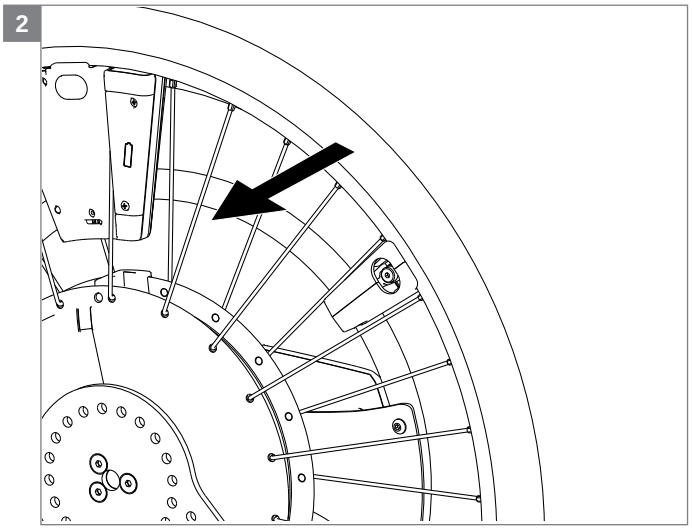


3

Marathon Plus Evo

4

Right Run

5.6.2 Charger connector cover

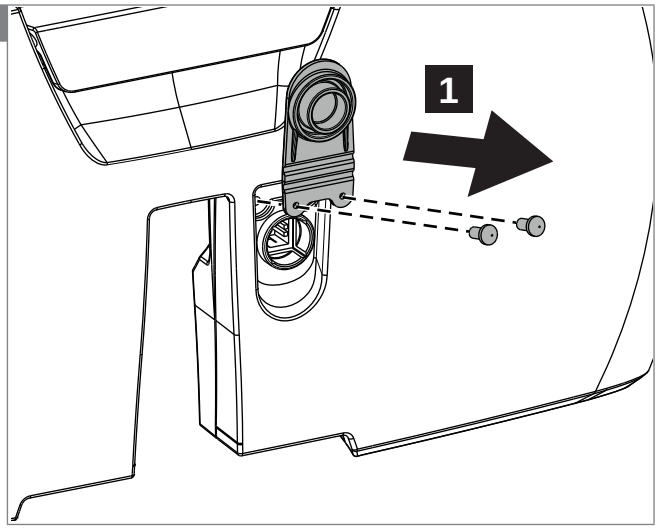
Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery.

Instructions
The following operations are required to replace the charger connector cover:
- Unscrew the 2 bolts (REMFORM M3x6).
- Remove the charger connector cover.
- Mount the connector cover in reverse order

Relevant article numbers
- 9007938 Charger connector cover

Tools used
- Philips head screwdriver

1



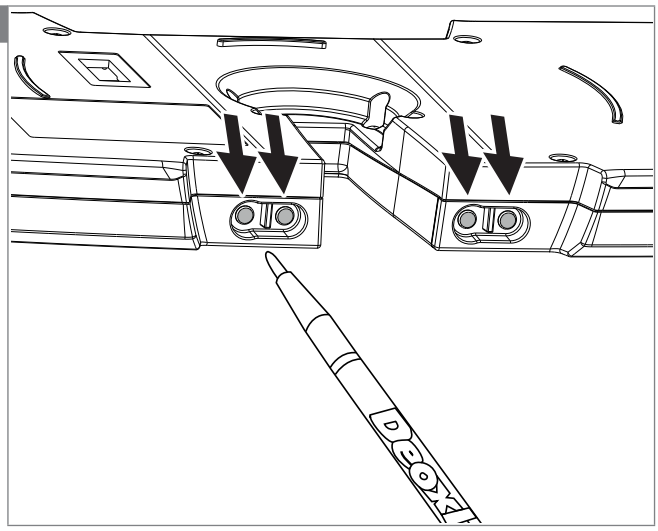
5.6.3 Battery contacts cleaning

Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery

Instructions
- Clean all 4 contacts, refer to manual on cleaner.

Relevant article numbers
- 9009885 Contact cleaner

1



5.6.4 Anti-tip

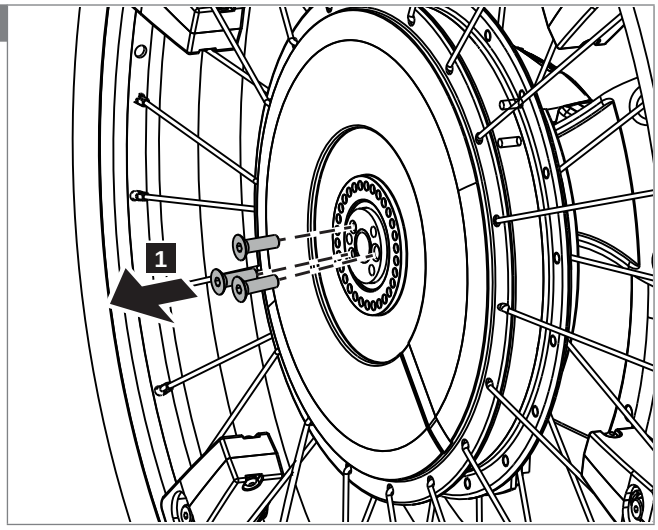
Preparation
- Unlock the Wheeldrive and remove from frame.
- To prevent the risk of injury, always turn off the Power assist and remove the battery

Instructions
The following operations are required to replace the anti-tip:
- Remove the 3 screws
- Mount the Anti-tip in the desired position.
  Note! Anti-tip are right and left oriented

Relevant article numbers
- 9007961 Anti-tip arm, right
- 9007963 Anti-tip arm, left

Tools used
- Allen key 4
- Loctite 243

1



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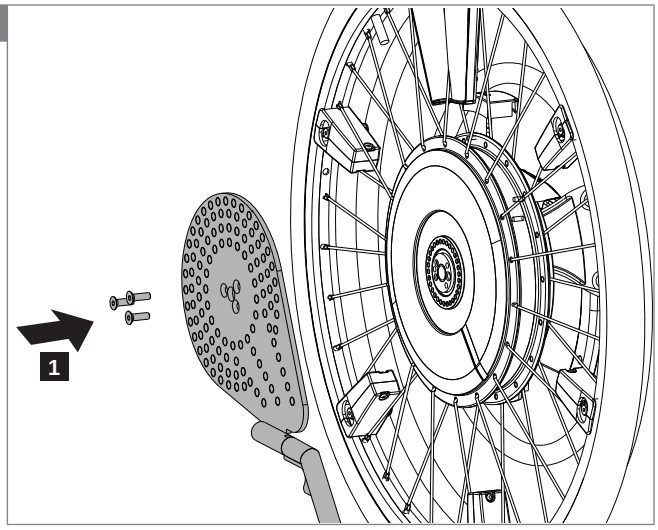


5.6.5 Parameter setting

Preparation
Computer and USB connection

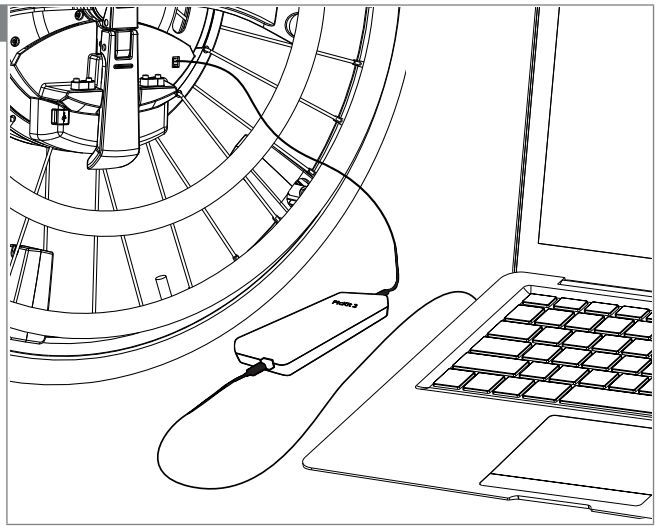
Instructions
- Switch on the WheelDrive.
- Remove the rubber cap on the WheelDrive controller.
- Make connection between the computer and the WheelDrive.
- Startup the WheelDrive parameter program.
- Select the desired COM connection. **Note!** Make sure both wheels, left and right, always use the same parameter settings.
- Apply setting by clicking the desired parmeter and click button load parameter
- Press disconnect
- Replace the rubber cap

Relevant article numbers
- 9007941 USB cover

Tools used
- Indes WheelDrive program
- Computer
- USB cable

1

2



6 Troubleshooting

Possible cause	Check
WheelDrive no function	• Batteries placed? • Batteries placed correctly? • Batteries charged? • Check battery contacts at both sides.
WheelDrive has no support by the Assist rim	• Is the Assist rim undamaged? • Are batteries placed in sensor box • Are batteries sufficient to power the sensor box • The use of rechargeable batteries (this is not allowed). • At start-up of the system the Assist rim is not in center position. This results in warning beeps by the system. Refer to user manual for warning beeps.
WheelDrive has no support by the Drive rim	• Is the Drive rim damaged? • Is the Drive rim bend in any way? • At start-up of the system the Drive rim is not in center position. This results in warning beeps by the system. Refer to user manual for warning beeps.
WheelDrive is driving by itself (no input is given by user and the WheelDrive starts to move)	• Check center position of Assist rim • Check center position of Drive rim • Check for damages both rims
WheelDrive does not charge	• Check if plug is in wall outlet. • Check if plug is firmly placed in charger. • Check if plug is placed firmly in battery. • Check if the green indicator light is working on the charger. • When charging, the indicator changes to red. • If indicator is red flashing, an error is detected.
WheelDrive is beeping	• Refer to user manual.
WheelDrive installation problems	• Check correct installation • Press lock button for installing and releasing wheel • Remove wheel in a straight line outwards

7 Technical product information

7.1 CE Declaration and standards

This product complies with the COUNCIL DIRECTIVE 93/42/EEC of 14 June 1993 concerning medical devices. The product also meets the following requirements and standards. This has been verified by independent test organizations.

Standard	Definition/description
EU guideline 93/42 EEC	Requirements as stated in Appendix 1 apply
EN 12183 (2009) Class B	Manual wheelchairs - Requirements and test methods
EN 12184 (2009) Class B	Electrically powered wheelchairs, scooters and their chargers - Requirements and test methods
ISO 7176-14 (2008)	Power and control systems for electrically powered wheelchairs and scooters - Requirements and test methods
EN 62304 (2006)	Medical device software – Software life-cycle processes
ISO 7176-21 (2009)	Requirements and test mothods for electromagnetic compatibility of electrically powered wheelchairs and scooters, and battery chargers

7.2 Technical specifications

Product	Model
WheelDrive right wheel	E0706-5500
WheelDrive left wheel	E0706-5501

WheelDrive	
Class	Indoor and outdoor use (EN12184 class B)

Description	Unit	
Additional width in reference with manual wheel per side	mm (inch)	21,5 (0.8)
Total additional width in reference with manual wheel	mm (inch)	43 (1.7)
Total weight without batteries	kg (lbs.)	9,7 (1.5)
Weight of the batteries (set)	kg (lbs.)	3,6 (0.6)
Wheel diameter	inch	22 / 24
Distance range approx (ISO 7176-4)* Assist rim Drive rim	 km (mi) km (mi)	 20 (12.4) 12 (7.5)
Climbing capacity for obstacles (outdoor), driving backwards	mm (inch)	50 (2)
Maximum speed forward** (support until)	km (mi)	6 (3.7)
Operating temperature	ºC	-10 and +40
Ingress Protection Rating	Splashing water proof IPX4	
Battery	NiMH, 24V, 3.8Ah	
Battery charge temperature	ºC	0 till +40
Battery storage temperature	ºC	-20 till +40
Battery service life	500 load cycles	
Maximum load capacity	kg (lbs.)	130 (20.5)
Battery charger	N100-24, reference number Indes_SUP012	
Charging time (full-charge) approx	hours	2
AA batteries sensor box	A-brand Alkaline AA (LR6) battery, 2700mAh	

* Range dependent on user weight, condition of tyres, type of terrain, condition of battery and weather conditions

** Driving faster than 15 km/h is not allowed with a fully charged battery pack; a potential overvoltage will result in a shut-down

8 Warranty

8.1 Definitions of terms

Definitions of terms used in this warranty:
- Consumable part: Part that is subjected to natural wear and tear or natural contamination during normal operation within the lifetime of the product (section 9 of Handicare's general terms and conditions of sale);
- Client: Those who purchase the product directly from Handicare;
- Corrective action: Repair, replace or refund of the product;
- Dealer: Those who re-sell the product to the User;
- Defect: Any circumstance due to which the product is not sound or fit to use, caused by a lack of quality of the material used to manufacture the product as well as the quality of the manufacturing process;
- Option: An accessory delivered by Handicare to extend the standard product model;
- Product: Product that is delivered according to brochure or contract (e.g. wheelchair, scooter, battery-charger etc.);
- Part: Part of product that can be exchanged or replaced. This can be an option, accessory, service part or consumable part;
- Returns: Product or part that needs to be returned;
- RMA-process: Process to return goods, contact Handicare's Customer Service;
- Service part: Part that is durable and may be subjected to natural wear and tear or natural contamination during normal operation within the lifetime of the product.;
- User: Those who use the product;
- Warranty: The rights and obligations set forth in this document;
- Warranty period: The period of time during which the warranty is valid;
- Warranty provider: Handicare B.V., Vossenbeemd 104, 5705 CL Helmond, The Netherlands.

Notwithstanding the rights and obligations of Handicare, Client and User set forth in Handicare's general terms and conditions of sale, the rights of the Client and/or User towards Handicare in case of defects are limited to the provisions set forth in this warranty. For the duration of the warranty period Handicare guarantees that the product is without defects.
In case of any defects the User is required –within two weeks after discovery of the defect- to contact the dealer. He has to complete a return form and return the product or part via the RMA-process. Handicare will, at its sole discretion, take the corrective action it seems fit under the given circumstances within a reasonable period of time (depends on nature of claim) from receipt of the completed return form. The warranty period will not be extended after a corrective action.

8.2 Warranty period table

Manual wheelchairs

Description	Warranty period	Examples include, but are not limited to the parts mentioned below
Frame	2 years	Weldment/frame
Service Parts	New: 1 year after invoice Repaired: 90 days after invoice	Brakes
Consumable parts	40 days after invoice	Seat- and back textiles, wheels, griphandles etc.
Options/ Accessories	2 years	Headrests, legrests, drum brake etc. Not being service part or consumable part.

Power wheelchairs

Description	Warranty period	Examples include, but are not limited to the parts mentioned below
Frame	2 years	Weldment/frame
Drive system	1 year	Transaxle, motor, motor brake
Electronics	1 year	Controller, controlling mechanism, wiring harness, electronic components
Service Parts	New: 1 year after invoice Repaired: 90 days after invoice	Brakes
Consumable parts	40 days after invoice	Wheels, push handles etc.
Options/ Accessories	2 years	Mirror, mudguards etc. Not being service part or consumable part.

Handicare will only accept shipment costs and corrective costs related to warranty on equipment during the warranty period.

This warranty will void in case of:
- The product and/or its parts being modified or items having been added by others than Handicare;
- Changes in cosmetic appearance by use;
- Failure to observe the instructions for use and maintenance, use other than normal use, wear and tear, negligence, collateral damage by neglect of earlier symptoms, overloading, third-party accidents, non-original parts used and defects not caused by the product;
- Circumstances beyond our control (flood, fire, etc.).

This warranty does not cover:
- Tyres and inner tubes
- Batteries (covered by the battery manufacturer's warranty).

Clients and/or Users have legal (statutory) rights under applicable national laws relating to the sale of consumer products. This warranty does not affect statutory rights you may have nor those rights that cannot be excluded or limited, nor rights against the entity from whom the product was purchased. Clients may assert any rights they have at their sole discretion.

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CE

The WheelDrive is a product of Indes Production Management BV. and is in conformity with the provisions of the medical devices directive concerning class I medical devices.

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